# IDENTIFICATION OF MILK UREA NITROGEN (MUN), SERUM ESTROGEN AND PREGNANCY RATE BASED ON GRASS TO CONCENTRATE RATIOS IN HOLSTEIN FRIESIAN

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## ABSTRACT

This study was conducted to identify the ratio of grass to concentrate based on MUN levels, serum estrogen, and pregnancy rate in dairy cows. A total of 18 dairy cows were randomly selected from the population. The cows were grouped based on feed and MUN and pregnancy. Milk samples collection was carried out once on the seventh day after estrus (H+7) and tested with the Barthelot method for measuring urea nitrogen levels. Blood samples were taken three times at estrus (H0), seven days after estrus (H+7), and twenty-two days after estrus (H+22), and were tested using Immuno-Sorbent Assay (ELISA). Pregnancy examination was carried out three months after artificial insemination through rectal palpation. Analysis of feed data (grass and concentrate), protein intake and MUN were tested using Analysis of Variance (Anova), while serum Estrogen was analyzed by the Kruskal-Wallis test. Grouping based on the ratio of grass to concentrate, total protein intake, and MUN showed no significant difference ($p>0.05$) in each group. Serum estrogen levels were not significantly different ($p>0.05$) in each group. Statistical results based on MUN and pregnancy, serum estrogen levels in pregnant cows with low MUN levels showed that serum estrogen day of estrus (H0) was significantly ($p <0.05$) compared to groups of cows with the same MUN but not-pregnant. It can be concluded that the ratio of grass and concentrate did not have an effect on total protein intake, MUN levels, and serum estrogen, in non-pregnant cows having MUN levels >14 mg / dL.

**Keywords :** Ratio grass to concentrat, MUN, Estrogen serum, pregnancy rates, holstein friesian